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to the New Mexico 2017–2018 standards

for Anatomy and Physiology.

| STANDARD | | G–W CORRELATING PAGES |
|--|-----------------|---|
| Standard 1 Students shall explore the organizational structures of the body from the molecular to the organism level. | | 12 |
| OHB.1.AP.1 Infer the relationship between anatomy and physiology | | 4 |
| OHB.1.AP.2 Sequence the levels of organization of the human body | | 12 |
| OHB.1.AP.3 Identify the major body systems | | 12–15 |
| OHB.1.AP.4 Describe relative positions, body planes, body regions and body quadrants | | 5–9 |
| OHB.1.AP.5 Identify the major body cavities and the subdivisions of each cavity | | 8 |
| OHB.1.AP.6 Investigate homeostatic control mechanisms and their importance to health and diseases | | 12–17, 38, 58, 100, 123, 218, 303–305, 306, 307, 312–313, 316, 378, 381, 529, 532, 552, 564–565, 578 |
| OHB.1.AP.7 Predict the effect of positive and negative feedback mechanisms on homeostasis | | 15–16 |
| OHB.1.AP.8 Identify the major characteristics of life: | | |
| | metabolism | 16–18 |
| | responsiveness | 216–297 |
| | movement | 172–215 |
| | growth | 77, 97–98, 127–128, 130, 243, 268, 277, 285, 317, 354–355, 388–389, 420, 471, 534, 569, 590–595, 599, 611–619 |
| | reproduction | 64–66, 590–595 |
| | differentiation | 593–594 |
| Standard 2 Students shall understand the role of chemistry in body processes. | | 12–18, 42–54, 510–515, 517, 524–526 |
| CC.2.AP.1 Distinguish between matter and energy | | 20, 60, 510–511 |
| CC.2.AP.2 Explain the basic assumptions and conclusions of the atomic theory | | 12 |

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| CC.2.AP.3 Distinguish between compounds and mixtures | 31 |
| CC.2.AP.4 Explain the role of ionic, covalent, and hydrogen bonds in the human body | 45–53 |
| CC.2.AP.5 Write simple formulas and chemical word equations for the four basic types of reactions: | 68 |
| synthesis | 68 |
| decomposition | 68 |
| single replacement | 68 |
| double replacement | 68 |
| CC.2.AP.6 Analyze the role of water in the human body | 52–53, 511, 513–514, 522, 528, 532 |
| CC.2.AP.7 Explain the relationship among acids, bases, and salts | 53 |
| CC.2.AP.8 Relate the concept of pH to homeostasis | 53 |
| CC.2.AP.9 Compare the structure and function of carbohydrates, lipids, proteins, and nucleic acids | 42–52 |
| CC.2.AP.10 Describe the characteristics and importance of enzymes | 46 |
| Standard 3 Students shall understand that cells are the basic, structural, and functional units of life. | 41, 55 |
| APC.3.AP.1 Explain the structure and function of the plasma membrane | 55–57 |
| APC.3.AP.2 Compare and contrast the different ways in which substances cross the plasma membrane: | |
| diffusion and osmosis | 56–57, 561–562 |
| facilitated diffusion | 56–57, 561–562 |
| active transport | 57, 562 |
| filtration | 558–560 |
| endocytosis | 57 |
| exocytosis | 57 |
| APC.3.AP.3 Describe the structure and function of organelles and cell parts | 55–62 |
| APC.3.AP.4 Identify chemical substances produced by cells | 60, 61 |
| APC.3.AP.5 Differentiate among replication, transcription, and translation | 50–51, 62–63 |
| APC.3.AP.6 Differentiate between mitosis and meiosis | 591 |

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| APC.3.AP.7 Explain the consequences of abnormal cell division | | 66–67 |
| Standard 4 Students shall understand the histology of the human body | | 69–79 |
| T.4.AP.1 Describe the structure, location, and function of each tissue category: | | 69–79 |
| | epithelial | 69–72 |
| | connective | 72–76 |
| | nervous | 78 |
| | muscle | 77–78 |
| Standard 5 Students shall describe the anatomy and physiology of the integumentary system. | | 93–100 |
| BS.5.AP.1 Identify the components of the integumentary system | | 93–94, 97–99 |
| BS.5.AP.2 Discuss the physiological mechanisms of the skin | | 93 |
| BS.5.AP.3 Identify the macroscopic and microscopic structure of the integumentary system | | 94–96 |
| BS.5.AP.4 Describe disorders associated with the integumentary system | | 101–113 |
| Standard 6 Students shall describe the anatomy and physiology of the skeletal system. | | 122–150 |
| BS.6.AP.1 Identify the components the <i>skeletal system</i> | | 132–150 |
| BS.6.AP.2 Discuss the physiological mechanisms of the <i>skeletal system</i> | | 122–150 |
| BS.6.AP.3 Identify the macroscopic and microscopic structure of bone | | 123–125 |
| BS.6.AP.4 Describe disorders associated with the skeletal system | | 155–163 |
| Standard 7 Students shall describe the anatomy and physiology of the muscular system. | | 174–199 |
| BS.7.AP.1 Identify the components the muscular system | | 174–199 |
| BS.7.AP.2 Discuss the physiological mechanisms of the muscular system | | 180–188 |
| BS.7.AP.3 Identify the macroscopic, microscopic, and molecular structure of muscle | | 174–176 |
| BS.7.AP.4 Describe disorders associated with the muscular system | | 200–207 |

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| Standard 8 Students shall describe the anatomy and physiology of the nervous system. | 218–244 |
| BS.8.AP.1 Identify the components the nervous system | 218–223 |
| BS.8.AP.2 Discuss the physiological mechanisms of the nervous system | 224–244 |
| BS.8.AP.3 Identify the macroscopic, microscopic, and molecular structure of the nervous system | 218–223, 230–244 |
| BS.8.AP.4 Describe disorders associated with the nervous system | 245–253 |
| Standard 9 Students shall describe the anatomy and physiology of the endocrine system. | 300–319 |
| BS.9.AP.1 Identify the components of the endocrine system | 300–319 |
| BS.9.AP.2 Discuss the physiological mechanisms of the endocrine system | 300–306 |
| BS.9.AP.3 Identify the macroscopic, microscopic, and molecular structure of the endocrine system | 300–319 |
| BS.9.AP.4 Describe disorders associated with the endocrine system | 320–329 |
| Standard 10 Students shall describe the anatomy and physiology of the cardiovascular system. | 378–390, 414–436 |
| BS.10.AP.1 Identify the components of the cardiovascular system | 378–390, 414–422, 427–436 |
| BS.10.AP.2 Discuss the physiological mechanisms of the cardiovascular system | 378, 414–426 |
| BS.10.AP.3 Identify the macroscopic, microscopic, and molecular structure of the cardiovascular system | 378–394, 414–417 |
| BS.10.AP.4 Describe disorders associated with the cardiovascular system | 395–405, 442–453 |
| Standard 11 Students shall describe the anatomy and physiology of the immune and lymphatic systems. | 464–491 |
| BS.11.AP.1 Identify the components of the immune and lymphatic systems | 464–491 |
| BS.11.AP.2 Discuss the physiological mechanisms of the immune and lymphatic systems | 474–491 |
| BS.11.AP.3 Identify the macroscopic, microscopic, and molecular structure of the immune and lymphatic systems | 464–491 |

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| BS.11.AP.4 Describe disorders associated with the immune and lymphatic systems | 492–499 |
| Standard 12 Students shall describe the anatomy and physiology of the respiratory system. | 340–356 |
| BS.12.AP.1 Identify the components of the respiratory system | 340–347 |
| BS.12.AP.2 Discuss the physiological mechanisms of the respiratory system | 340–356 |
| BS.12.AP.3 Identify the macroscopic, microscopic, and molecular structure of the respiratory system | 340–356 |
| BS.12.AP.4 Describe disorders associated with the respiratory system | 357–367 |
| Standard 13 Students shall describe the anatomy and physiology of the digestive system. | 516–535 |
| BS.13.AP.1 Identify the components the digestive system | 516–535 |
| BS.13.AP.2 Discuss the physiological mechanisms of the digestive system | 516–535 |
| BS.13.AP.3 Identify the macroscopic, microscopic, and molecular structure of the digestive system | 516–535 |
| BS.13.AP.4 Describe disorders associated with the digestive system | 536–543 |
| Standard 14 Students shall describe the anatomy and physiology of the urinary system. | 552–570 |
| BS.14.AP.1 Identify the components the urinary system | 552–570 |
| BS.14.AP.2 Discuss the physiological mechanisms of the urinary system | 552–570 |
| BS.14.AP.3 Identify the macroscopic, microscopic, and molecular structure of the urinary system | 552–570 |
| BS.14.AP.4 Describe disorders associated with the <i>urinary system</i> | 571–581 |
| Standard 15 Students shall describe the anatomy and physiology of the reproductive system. | 596–610 |
| BS.15.AP.1 Describe the components and the organization of the reproductive system | 596–610 |
| BS.15.AP.2 Discuss the physiological mechanisms of the reproductive system | 596–610 |
| BS.15.AP.3 Identify the macroscopic, microscopic, and molecular structure of the reproductive system | 596–610 |

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| BS.15.AP.4 Describe disorders associated with the reproductive system | 620–629 |
| Standard 16 Students shall demonstrate an understanding that science is a way of knowing. | 24, 31 |
| NS.16.AP.1 Explain why science is limited to natural explanations of how the world works | 24, 27 |
| NS.16.AP.2 Compare and contrast hypotheses, theories, and laws | 24–25, 31 |
| NS.16.AP.3 Distinguish between a scientific theory and the term “theory” used in general conversation | 26–27 |
| NS.16.AP.4 Summarize the guidelines of science: | 24–31 |
| explanations are based on observations, evidence, and testing | 24 |
| hypotheses must be testable | 24–25 |
| understandings and/or conclusions may change with additional empirical data | 26 |
| scientific knowledge must have peer review and verification before acceptance | 25–26 |
| Standard 17 Students shall design and safely conduct scientific inquiry. | 27, 31 |
| NS.17.AP.1 Develop and explain the appropriate procedure, controls, and variables (dependent and independent) in scientific experimentation | 283 |
| NS.17.AP.2 Research and apply appropriate safety precautions (refer to ADE Guidelines) when designing and/or conducting scientific investigations | 27 |
| NS.17.AP.3 Identify sources of bias that could affect experimental outcome | 38 |
| NS.17.AP.4 Gather and analyze data using appropriate summary statistics | 38, 214, 296–297, 336, 410, 460, 506, 549, 636 |
| NS.17.AP.5 Formulate valid conclusions without bias | 38 |
| NS.17.AP.6 Communicate experimental results using appropriate reports, figures, and tables | 39, 54, 119, 171, 188, 215 |
| Standard 18 Students shall demonstrate an understanding of current life science theories. | 68 |
| NS.18.AP.1 Understand that scientific theories may be modified or expanded based on additional empirical data, verification, and peer review | 26 |

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| NS.18.AP.2 Relate the development of the cell theory to current trends in cellular biology | 68 |
| NS.18.AP.3 Describe the relationship between the germ theory of disease and our current knowledge of immunology and control of infectious diseases | 474 |
| NS.18.AP.4 Relate the chromosome theory of heredity to recent findings in genetic research (e.g., Human Genome Project–HGP, chromosome therapy) | 50–51, 87 |
| NS.18.AP.5 Research current events and topics in human biology | 65, 129, 185, 384, 419, 562 |
| Standard 19 Students shall use mathematics, science equipment, and technology as tools to communicate and solve life science problems. | 9–10, 25, 31, 68, 79, 87, 629 |
| NS.19.AP.1 Collect and analyze scientific data using appropriate mathematical calculations, figures, and tables | 38, 86, 119, 170, 214, 260, 296–297, 336, 374, 410, 460, 506, 549, 586, 636 |
| NS.19.AP.2 Use appropriate equipment and technology as tools for solving problems (e.g., microscopes, centrifuges, flexible arm cameras, computer software and hardware) | 9–10, 25, 31, 68, 79, 87, 629 |
| NS.19.AP.3 Utilize technology to communicate research findings | 79, 163, 171, 214, 261, 283, 306, 441, 557 |
| Standard 20 Students shall describe the connections between pure and applied science. | 30 |
| NS.20.AP.1 Compare and contrast human biology concepts in pure science and applied science | 30 |
| NS.20.AP.2 Discuss why scientists should work within ethical parameters | 27, 51 |
| NS.20.AP.3 Explain how the cyclical relationship between science and technology results in reciprocal advancements in science and technology | 30 |
| Standard 21 Students shall describe various health science careers and the training required for the selected career. | 32–33, 80–81, 114–115, 164–165, 208–209, 254–255, 292–293, 330–331, 368–369, 406–407, 454–455, 500–501, 544–545, 582–583, 630–631 |
| NS.21.AP.1 Research and evaluate health science careers using the following criteria: educational requirements salary availability of jobs | 32–33, 80–81, 114–115, 164–165, 208–209, 254–255, 292–293, 330–331, 368–369, 406–407, 454–455, 500–501, 544–545, 582–583, 630–631 |

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| working conditions | |
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